Math Activity 2

This activity illustrates the following Econ concepts using the corresponding Math concepts.

Table 1

Econ Concept	**Math Concept**
Scarce Resources	Line graph of values in Table 2 shown in Figures 1a and 1b Area inside the curve: Attainable Area outside the curve - Unattainable
Constant Opportunity Cost	Slope calculations of the lines in Figure 1a and 1b Inverse slope calculations of the lines in Figures 1a and 1b
Absolute Advantage	Comparison of the x-intercepts between Figure 1a and 1b Comparison of the y-intercepts between Figure 1a and 1b
Comparative Advantage	Comparison of slopes and inverse slope values in Figures 1a and 1b
Specialization	X- intercept in the case of Figure 1a as the slope value is lower in Figure 1a Y- intercept in the case of Figure 1b as the inverse slope value is lower in Figure 1b)

1) The maximum amount of steel or aluminum that Canada and France can produce if they use all the factors of production at their disposal with the best technology available to them is shown in the following table.

Table 2

	Canada	France
Steel (tons)	500	1200
Aluminum (tons)	1500	800

Assume that production occurs under constant cost conditions.

a) The corresponding production possibilities schedules for Canada and France; with aluminum on the x-axis and steel on the vertical axis, are graphed below.

Figure 1a

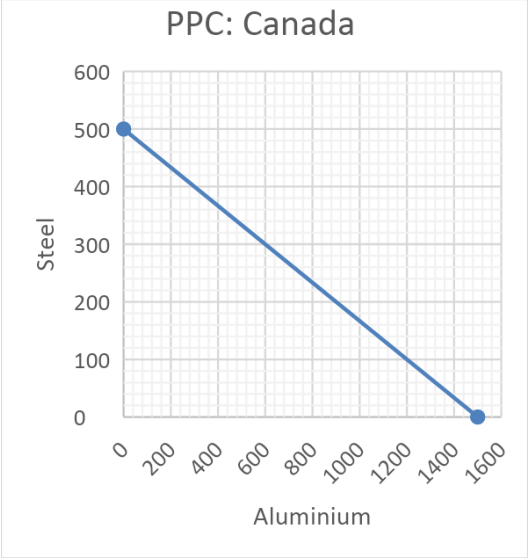
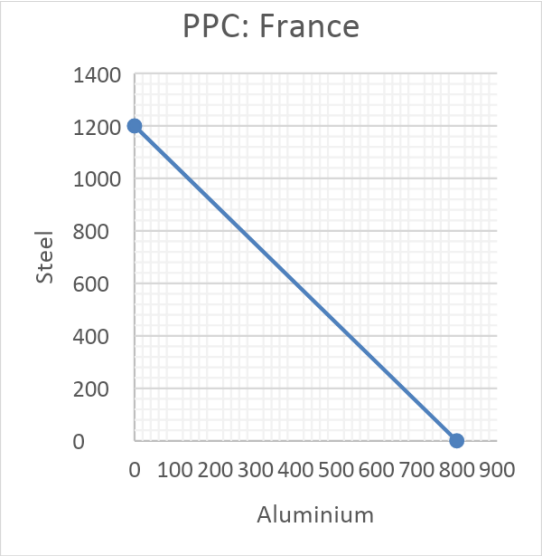


Figure 1b



a) What is the quantity of steel that can be produced bv Canada if they devote all of their resources to steel production?
b) What is the quantity of steel that can be produced bv France if they devote all of their resources to steel production?
c) What is the quantity of aluminum that can be produced bv Canada if they devote all of their resources to steel production?
d) What is the quantity of aluminum that can be produced bv France if they devote all of their resources to steel production?
e) Who has the absolute advantage in the production of steel? Of aluminum?
f) Calculate the slope of Canada's PPC. Determine the opportunity cost of aluminum for Canada.
g) Calculate the inverse of the slope of Canada's PPC. Determine the opportunity cost of steel for Canada.
h) Calculate the slope of France's PPC. Determine the opportunity cost of aluminum for Canada.
i) Calculate the inverse of the slope of France's PPC. Determine the opportunity cost of steel for Canada.
j) Which country has the lower opportunity cost in steel? And therefore, who should specialize steel production according to the principle of comparative advantage?
k) Which country has the lower opportunity cost in aluminum? And therefore, who should specialize steel production according to the principle of comparative advantage?
l) Denote each country's specialization point, i.e., if they only produce the good in which they have a comparative advantage, on its production possibilities curve.